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EXAMINER

LAZARO, DAVID R

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/693,297

Applicant(s)

SLAUGHTER ET AL.

Examiner

David Lazaro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application:
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. This Office Action is in response to the amendment filed 04/12/04, Paper #7.
2. Claim 43 was amended.
3. Claims 1-55 are pending in this Office Action.
4. The 35 U.S.C. § 112, 2<sup>nd</sup> paragraph rejection of Claim 43 is withdrawn.

Applicants assumed correctly that there was a typographical error in the original rejection; the error being 'Claim 42' should have been 'Claim 43'.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 2, 4, 5, 10, 11, 14, 15, 17-19, 21, 22, 27, 28, 30-32, 37, 38, 40-43, 45, 46, 48, 50, 52, 54 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,216,158 by Luo et al. (Luo) in view of U.S. Patent 6,377,913 by Coffman et al. (Coffman).
7. With respect to Claim 1, Luo teaches a method for displaying results data in a distributed computing environment (Col. 3 lines 41-67), comprising: establishing a first messaging channel between a client and a first service in the distributed computing environment (Col. 4 lines 30-53 and Col. 6 lines 22-27); the client sending a first message to the first service on the first messaging channel (Col. 6 lines 22-27), the first service accessing the display service advertisement (Col. 6 lines 45-48 and lines 10-27) ; and the first service establishing a second messaging channel between the first

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service and the display service in accordance with the display service advertisement (Col. 4 line 54 – Col. 5 line 8 and Col. 6 lines 22-27). Luo does not explicitly disclose the client specifying the display advertisement for the first service to use. However, it is well known in the art that a client can specify the display service to use as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Luo and modify it as indicated by Coffman such that the first message specifies a display service advertisement for enabling access to a display service associated with the client; the first service accessing the display service advertisement as specified in the first message; and the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement. One would be motivated to have this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

8. With respect to Claim 2, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the first messaging channel is configured to pass messages in a data representation language between the client and the first service (Col. 4 lines 30-53 of Luo), and wherein the second messaging channel is configured to pass messages in the data representation language between the first service and the display service (Col. 4 line 54 – Col. 5 line 8 of Luo).

9. With respect to Claim 4, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the first service sending one or more data messages to the

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display service on the second messaging channel (Col. 8 lines 53-64 of Luo), wherein the one or more data messages include data for the client (Col. 6 lines 24-27 of Luo); and the display service displaying the data from the one or more data messages on a display of the client (Col. 8 lines 53-64 of Luo).

10. With respect to Claim 5, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the first service establishing a second messaging channel comprises the first service generating a first service message endpoint, wherein the first service message endpoint: is configured to send messages to and receive messages from a display service message endpoint of the display service (Col. 4 line 54 – Col. 5 line 8 of Luo).

11. With respect to Claim 10, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the client sending a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client (Col. 7 lines 48-54 of Luo); and the first service performing; the function as requested by the client, wherein said performing the function produces results data (Col. 7 lines 54-59 of Luo).

12. With respect to Claim 11, Luo in view of Coffman teaches all the limitations of Claim 10 and further teaches the first service sending one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function; and the display service displaying the results data from the one or more results data messages on a display of the client (Col. 7 lines 48-59 of Luo).

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13. With respect to Claim 14, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the display service advertisement is on a storage device in the distributed computing environment (Col. 6 lines 9-21 of Luo), wherein the first message includes information for accessing the display service advertisement on the storage device through a space service (Col. 6 lines 45-59 of Luo and Col. 5 lines 1-10 of Coffman).

14. With respect to Claim 15, Luo in view of Coffman teaches all the limitations of Claim 14 and further teaches the first service accessing the display service advertisement comprises accessing the display service advertisement from the storage device through the space service (Col. 6 lines 9-21 of Luo).

15. With respect to Claim 17, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches the client is executing within a first device in the distributed computing environment, and wherein the display service is executing within a second device in the distributed computing environment (Col. 3 lines 55-59 of Luo).

16. With respect to Claim 18, Luo teaches a distributed computing system (Col. 3 lines 21-40), comprising: a first device configured to provide a first service accessible within the distributed computing system (Col. 3 lines 51 and 55-59); and a second device configured to: provide a display service accessible within the distributed computing system (Col. 3 lines 54 and 55-59); and provide a client process accessible within the distributed computing system (Col. 3 lines 45-50 and 55-59); wherein the client process is configured to: establish a first messaging channel between the client process and the first service in the distributed computing environment (Col. 4 lines 30-

53 and Col. 6 lines 22-27); and send a first message to the first service on the first messaging channel (Col. 6 lines 22-27), wherein the first service is configured to access the display service advertisement (Col. 6 lines 45-48 and 10-27); and establish a second messaging channel between the first service and the display service in accordance with the display service advertisement (Col. 4 line 54 - Col. 5 line 8 and Col. 6 lines 22-57). Luo does not explicitly disclose the client specifying the display advertisement for the first service to use. However, it is well known in the art that a client can specify the display service to use as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Luo and modify it as indicated by Coffman such that the first message specifies a display service advertisement for enabling access to the display service; wherein the first service is configured to: access the display service advertisement as specified in the first message; and establish a second messaging channel between the first service and the display service in accordance with the display service advertisement. One would be motivated to have this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

17. With respect to Claim 19, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches the first messaging channel is configured to pass messages in a data representation language between the client and the first service (Col. 4 lines 30-53 of Luo), and wherein the second messaging channel is configured to

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pass messages in the data representation language between the first service and the display service (Col. 4 line 54 – Col. 5 line 8 of Luo).

18. With respect to Claim 21, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches the second device comprises a display (Col. 3 lines 54-59 of Luo), wherein the first service is configured to send one or more data messages to the display service on the second messaging channel (Col. 8 lines 53-64 of Luo), wherein the one or more data messages include data for the client process (Col. 6 lines 24-27 of Luo); and the display service is further configured to display the data from the one or more data messages on a display of the second device (Col. 8 lines 53-64 of Luo).

19. With respect to Claim 22, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches in said establishing a second messaging channel comprises, the first service is further configured to generate a first service message endpoint, wherein the first service message endpoint: is configured to send messages to and receive messages from the display service (Col. 4 line 54 – Col. 5 line 8 of Luo).

20. With respect to Claim 27, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client (Col. 7 lines 48-54 of Luo); and the first service is further configured to perform the function as requested by the client, wherein said performing the function produces results data (Col. 7 lines 54-59 of Luo).



21. With respect to Claim 28, Luo in view of Coffman teaches all the limitations of Claim 27 and further teaches the first service is further configured to send one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function, and wherein the display service is further configured to display the results data from the one or more results data messages on a display of the second device (Col. 7 lines 48-59 of Luo).

22. With respect to Claim 30, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches a fourth device configured to provide a space service accessible within the distributed computing system, wherein the display service advertisement is stored on the fourth device (Col. 6 lines 9-21 of Luo); wherein the first message includes information for accessing the display service advertisement on the fourth device through the space service; and wherein, in accessing the display service advertisement, the first service is further configured to access the display service advertisement from the fourth device through the space service (Col. 6 lines 45-59 of Luo and Col. 5 lines 1-10 of Coffman).

23. With respect to Claim 31, Luo teaches a distributed computing system (Col. 3 lines 21-40), comprising: a first device configured to provide a first service accessible within the distributed computing system (Col. 3 lines 51 and 55-59); and a second device configured to: provide a display service accessible within the distributed computing system (Col. 3 lines 54 and 55-59); and a client device (Col. 3 lines 1-11), configured to establish a first messaging channel between the client device and the first

service in the distributed computing environment (Col. 4 lines 30-53 and Col. 6 lines 22-27); and send a first message to the first service on the first messaging channel (Col. 6 lines 22-27), wherein the first service is configured to access the display service advertisement (Col. 6 lines 45-48 and 10-27); and establish a second messaging channel between the first service and the display service in accordance with the display service advertisement (Col. 4 line 54 - Col. 5 line 8 and Col. 6 lines 22-57). Luo does not explicitly disclose the client specifying the display advertisement for the first service to use. However, it is well known in the art that a client can specify the display service to use as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Luo and modify it as indicated by Coffman such that the first message specifies a display service advertisement for enabling access to the display service; wherein the first service is configured to: access the display service advertisement as specified in the first message; and establish a second messaging channel between the first service and the display service in accordance with the display service advertisement. One would be motivated to have this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

24. With respect to Claim 32, Luo in view of Coffman teaches all the limitations of Claim 31 and further teaches the second device comprises a display (Col. 3 lines 54-59 of Luo), wherein the first service is configured to send one or more data messages to the display service on the second messaging channel (Col. 8 lines 53-64 of Luo),

wherein the one or more data messages include data for the client process (Col. 6 lines 24-27 of Luo); and the display service is further configured to display the data from the one or more data messages on a display of the second device (Col. 8 lines 53-64 of Luo).

25. With respect to Claim 37, Luo in view of Coffman teaches all the limitations of Claim 31 and further teaches the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client (Col. 7 lines 48-54 of Luo); and the first service is further configured to perform the function as requested by the client, wherein said performing the function produces results data (Col. 7 lines 54-59 of Luo).

26. With respect to Claim 38, Luo in view of Coffman teaches all the limitations of Claim 37 and further teaches the first service is further configured to send one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function, and wherein the display service is further configured to display the results data from the one or more results data messages on a display of the second device (Col. 7 lines 48-59 of Luo).

27. With respect to Claim 40, Luo in view of Coffman teaches all the limitations of Claim 31 and further teaches a fourth device configured to provide a space service accessible within the distributed computing system, wherein the display service advertisement is stored on the fourth device (Col. 6 lines 9-21 of Luo);

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28. wherein the first message includes information for accessing the display service advertisement on the fourth device through the space service; and wherein, in accessing the display service advertisement, the first service is further configured to access the display service advertisement from the fourth device through the space service (Col. 6 lines 45-59 of Luo and Col. 5 lines 1-10 of Coffman).

29. With respect to Claim 41, Luo teaches a device, comprising: a display service accessible within a distributed computing system (Col. 3 lines 54 and lines 21-40); and a client process accessible within the distributed computing system (Col. 4 lines 30-53); wherein the client process is configured to: establish a first messaging channel between the client process and a first service in the distributed computing environment (Col. 6 lines 22-27); and send a first message to the first service on the first messaging channel, wherein the first service is operable to establish a second messaging channel between the first service and the display service (Col. 6 lines 45-48 and lines 10-27).

Luo does not explicitly disclose the first message specifying the display service advertisement the first service should use. However, it is well known in the art that a client can specify the display service to use as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the device disclosed by Luo and modify it as indicated by Coffman such that the first message specifies a display service advertisement for enabling access to the display service; wherein the first service is operable to establish a second messaging channel between the first service and the display service in accordance with the display service advertisement. One would be motivated to have

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this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

30. With respect to Claim 42, Luo in view of Coffman teaches all the limitations of Claim 41 and further teaches the device comprises a display (Col. 3 lines 54-59 of Luo), wherein the display service is configured to receive one or more data messages on the second messaging channel (Col. 8 lines 53-64 of Luo), wherein the one or more data messages include data generated by the first service for the client process (Col. 6 lines 24-27 of Luo); and display the data in the one or more data messages on a display of the device (Col. 8 lines 53-64 of Luo).

31. With respect to Claim 43, Luo in view of Coffman teaches all the limitations of Claim 41 and further teaches the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client process (Col. 7 lines 48-54 of Luo); and the display service is further configured to display results data on the display of the second device (Col. 8 lines 54-64 of Luo), wherein the first service performing the function generates the results data, and wherein the results data are received in one or more results data messages sent to the display service by the first service on the second messaging channel (Col. 7 lines 54-59 of Luo).

32. With respect to Claim 45, Luo teaches a device, comprising: a display (Col. 3 lines 54); and a display service accessible within a distributed computing system (Col. 3 lines 54 and 55-59); wherein the display service is configured to provide a display

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service advertisement for enabling access to the display service to a client in the distributed computing environment (Col. 5 lines 43-56); wherein the first service is operable to establish a messaging channel between the first service and the display service in accordance with the display service advertisement (Col. 6 lines 45-48 and lines 10-27). Luo does not explicitly disclose the client providing the display service advertisement to the first service. However, it is well known in the art that one can have the client provide the display of choice as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the device disclosed by Luo and modify it as indicated by Coffman such that the client is operable to provide the display service advertisement to a first service in the distributed computing environment. One would be motivated to have this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

33. With respect to Claim 46, Luo in view of Coffman teaches all the limitations of Claim 45 and further teaches the display service is configured to receive one or more data messages on the second messaging channel (Col. 8 lines 53-64 of Luo), wherein the one or more data messages include data generated by the first service for the client process (Col. 6 lines 24-27 of Luo); and display the data in the one or more data messages on a display of the device (Col. 8 lines 53-64 of Luo).

34. With respect to Claim 48, Luo teaches a carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

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establishing a first messaging channel between a client and a first service in a distributed computing environment (Col. 6 lines 22-27), wherein the first messaging channel is configured to pass messages in a data representation language between the client and the first service (Col. 4 lines 30-53); the client sending a first message to the first service on the first messaging channel (Col. 6 lines 22-27), the first service accessing a display service advertisement (Col. 6 lines 45-48 and 10-27); and the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement (Col. 6 lines 22-57) wherein the second messaging channel is configured to pass messages in the data representation language between the first service and the display service (Col. 4 line 54 – Col. 5 line 8). Luo does not explicitly disclose the first message specifying the display service advertisement the first service should use. However, it is well known in the art that a client can specify the display service to use as shown by Coffman (Col. 5 lines 1-10 of Coffman). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the program instructions on a carrier medium disclosed by Luo and modify it as indicated by Coffman such that the first message specifies a display service advertisement for enabling access to the display service; the first service accessing the display service advertisement specified in the first message, and the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement wherein the second messaging channel is configured to pass messages in the data representation language between the first service and the display service. One would be motivated to

have this as it allows client devices to have results of a service displayed when the graphical capabilities of the client input device are not sufficient or non-existent (Col. 4 line 58 – Col. 5 line 6 of Coffman).

35. With respect to Claim 50, Luo in view of Coffman teaches all the limitations of Claim 48 and further teaches the first service sending one or more data messages to the display service on the second messaging channel (Col. 8 lines 53-64 of Luo), wherein the one or more data messages include data for the client (Col. 6 lines 24-27 of Luo); and the display service displaying the data from the one or more data messages on a display of the client (Col. 8 lines 53-64 of Luo).

36. With respect to Claim 52, Luo in view of Coffman teaches all the limitations of Claim 48 and further teaches the client sending a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client (Col. 7 lines 48-54 of Luo); and the first service performing; the function as requested by the client, wherein said performing the function produces results data (Col. 7 lines 54-59 of Luo), the first service sending one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function; and the display service displaying the results data from the one or more results data messages on a display of the client (Col. 7 lines 48-59 of Luo).

37. With respect to Claim 54, Luo in view of Coffman teaches all the limitations of Claim 48 and further teaches the display service advertisement is on a storage device in



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the distributed computing environment (Col. 6 lines 9-21 of Luo), wherein the first message includes information for accessing the display service advertisement on the storage device through a space service (Col. 6 lines 45-59 of Luo and Col. 5 lines 1-10 of Coffman), the first service accessing the display service advertisement comprises accessing the display service advertisement, the program instructions are further computer-executable to implement accessing the display service advertisement from the storage device through the space service (Col. 6 lines 9-21 of Luo).

38. Claims 3, 6-9, 16, 20, 23-26, 33-36, 49, 51 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luo in view of Coffman as applied to Claims 1 and 2 above, and further in view of "Composable ad hoc location-based services for heterogeneous mobile clients" by Hodes et al. (Hodes).

39. With respect to Claim 3, Luo in view of Coffman teaches all the limitations of Claim 2 but does not teach the data representation language is eXtensible Markup Language (XML). Hodes teaches in a similar network implementing downloadable service interfaces the data representation language used in communications is XML (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the method disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the data representation language is eXtensible Markup Language (XML). One would be motivated to have this as clients may resource limited and use of XML can relieve some

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of the processing burden off of the client (Page 418, section 3.7.1. "Motivating Interface Specifications").

40. With respect to Claim 6, Luo in view of Coffman teaches all the limitations of Claim 1 and further teaches data messages are generated by the first service and sent to the display, including data for the client (Col. 7 lines 55-59 of Luo), but does not explicitly disclose the display service advertisement having a message schema for describing data messages for sending data to the display service. However, Hodes shows it is well known in the art that a service advertisement can include a message schema describing how the data messages should be formed (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the method disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the display service advertisement comprises:

41. a message schema comprising descriptions of data messages for sending data to the display service; and wherein the method further comprises the first service generating one or more data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client. One would be motivated to have this since as it allows clients to generate messages even if the capabilities of the client cannot handle a given language implementation (Page 418, section 3.7.1. "Motivating Interface Specifications").

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42. With respect to Claim 7, Luo in view of Coffman and in further view of Hodes further teaches the display service receiving the one or more data messages from the first service; and the display service displaying the data included in the one or more data messages on a display of the client (Col. 8 lines 53-64 of Luo).

43. With respect to Claim 8, Luo in view of Coffman and in further view of Hodes further teaches an address for the display service to receive messages in the distributed computing environment; wherein the method further comprises the first service sending the one or more data message to the address for the display service to receive messages (Col. 8 lines 53-64 of Luo).

44. With respect to Claim 9, Luo in view of Coffman and in further view of Hodes further teaches the address is a Uniform Resource Identifier (URI) (Col. 8 lines 53-64 and Col. 9 lines 23-26 of Luo).

45. With respect to Claim 16, Luo in view of Coffman and in further view of Hodes further teaches the display service advertisement is an eXtensible Markup Language (XML) (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page).

46. With respect to Claim 20, Luo in view of Coffman teaches all the limitations of Claim 19 but does not teach the data representation language is eXtensible Markup Language (XML). Hodes teaches in a similar network implementing downloadable service interfaces the data representation language used in communications is XML (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the system

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disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the data representation language is eXtensible Markup Language (XML). One would be motivated to have this as clients may resource limited and use of XML can relieve some of the processing burden off of the client (Page 418, section 3.7.1. "Motivating Interface Specifications").

47. With respect to Claim 23, Luo in view of Coffman teaches all the limitations of Claim 18 and further teaches data messages are generated by the first service and sent to the display, including data for the client process (Col. 7 lines 55-59 of Luo), but does not explicitly disclose the display service advertisement having a message schema for describing data messages for sending data to the display service. However, Hodes shows it is well known in the art that a service advertisement can include a message schema describing how the data messages should be formed (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the system disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the display service advertisement comprises: a message schema comprising descriptions of data messages for sending data to the display service; and wherein the first service is further configured to generate one or more data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client process. One would be motivated to have this since as it allows clients to generate messages even if the

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capabilities of the client cannot handle a given language implementation (Page 418, section 3.7.1. "Motivating Interface Specifications").

48. With respect to Claim 24, Luo in view of Coffman and in further view of Hodes further teaches the second device comprises a display wherein the display service is further configured to receive the one or more data messages; and display the data included in the one or more data messages on a display of the second device (Col. 8 lines 53-64 of Luo).

49. With respect to Claim 25, Luo in view of Coffman and in further view of Hodes further teaches the display service advertisement further comprises an address for the display service to receive messages in the distributed computing environment; wherein the first service is further configured to send the one or more data message to the address for the display service to receive messages (Col. 8 lines 53-64 of Luo).

50. With respect to Claim 26, Luo in view of Coffman and in further view of Hodes further teaches the address is a Uniform Resource Identifier (URI) (Col. 8 lines 53-64 and Col. 9 lines 23-26 of Luo).

51. With respect to Claim 33, Luo in view of Coffman teaches all the limitations of Claim 31 and further teaches data messages are generated by the first service and sent to the display, including data for the client device (Col. 7 lines 55-59 of Luo), but does not explicitly disclose the display service advertisement having a message schema for describing data messages for sending data to the display service. However, Hodes shows it is well known in the art that a service advertisement can include a message schema describing how the data messages should be formed (Page 418, section 3.7.1.

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"Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the system disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the display service advertisement comprises: a message schema comprising descriptions of data messages for sending data to the display service; and wherein the first service is further configured to generate one or more data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client device. One would be motivated to have this since as it allows clients to generate messages even if the capabilities of the client cannot handle a given language implementation (Page 418, section 3.7.1. "Motivating Interface Specifications").

52. With respect to Claim 34, Luo in view of Coffman and in further view of Hodes further teaches the second device comprises a display wherein the display service is further configured to receive the one or more data messages; and display the data included in the one or more data messages on a display of the second device (Col. 8 lines 53-64 of Luo).

53. With respect to Claim 35, Luo in view of Coffman and in further view of Hodes further teaches the display service advertisement further comprises an address for the display service to receive messages in the distributed computing environment; wherein the first service is further configured to send the one or more data message to the address for the display service to receive messages (Col. 8 lines 53-64 of Luo).

54. With respect to Claim 36, Luo in view of Coffman and in further view of Hodes further teaches the address is a Uniform Resource Identifier (URI) (Col. 8 lines 53-64 and Col. 9 lines 23-26 of Luo).

55. With respect to Claim 49, Luo in view of Coffman teaches all the limitations of Claim 48 but does not teach the data representation language is eXtensible Markup Language (XML). Hodes teaches in a similar network implementing downloadable service interfaces the data representation language used in communications is XML (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the method disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the data representation language is eXtensible Markup Language (XML). One would be motivated to have this as clients may resource limited and use of XML can relieve some of the processing burden off of the client (Page 418, section 3.7.1. "Motivating Interface Specifications").

56. With respect to Claim 51, Luo in view of Coffman teaches all the limitations of Claim 48 and further teaches data messages are generated by the first service and sent to the display, including data for the client device (Col. 7 lines 55-59 of Luo), but does not explicitly disclose the display service advertisement having a message schema for describing data messages for sending data to the display service. However, Hodes shows it is well known in the art that a service advertisement can include a message schema describing how the data messages should be formed (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would

have been obvious to one of ordinary skill to take the system disclosed by Luo in view of Coffman and modify it as indicated by Hodes such that the display service advertisement comprises: a message schema comprising descriptions of data messages for sending data to the display service; and an address for the display service receiving the data messages, wherein the program instructions are further computer-executable to implement: the first service generating one or more data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client; the first service sending the one or more data message to the address for the display service receiving the data messages; the display service receiving the one or more data messages; and the display service displaying the data included in the one or more data messages on a display of the client. One would be motivated to have this since as it allows clients to generate messages even if the capabilities of the client cannot handle a given language implementation (Page 418, section 3.7.1. "Motivating Interface Specifications").

57. With respect to Claim 55, Luo in view of Coffman teaches all the limitations of Claim 48 but does not teach the the display service advertisement is an eXtensible Markup Language (XML) document. Hodes teaches in a similar network implementing downloadable service interfaces the service advertisements for interfaces can be described XML (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page). It would have been obvious to one of ordinary skill to take the method disclosed by Luo in view of Coffman and modify it as indicated by



Hodes such that the display service advertisement is an eXtensible Markup Language (XML) document. One would be motivated to have this as clients may resource limited and use of XML can relieve some of the processing burden off of the client (Page 418, section 3.7.1. "Motivating Interface Specifications").

58. Claims 12, 13, 29, 39, 44, 47 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luo in view of Coffman as applied above, and further in view of U.S. Patent 6,466,978 by Mukherjee et al. (Mukherjee).

59. With respect to Claim 12, Luo in view of Coffman teaches all the limitations of Claim 10 but does not explicitly disclose storing results of a service on a results space in the distributed computing environment. However, it is well known in the art that in a distributed computing environment data can be stored on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that the first service stores results data on a results space in the distributed computing environment. One would be motivated to have this as it reduces the burden on the resources and bandwidth of the service (Col. 4 lines 57-66 of Mukherjee).

60. With respect to Claim 13, Luo in view of Coffman and in further view of Coffman further teaches the first service sending a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the results space; the display

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service accessing the results data from the results space in accordance with the results advertisement (Col. 8 lines 10-13 of Luo); and the display service displaying the results data on a display of the client (Col. 8 lines 54-64 of Luo).

61. With respect to Claim 29, Luo in view of Coffman teaches all the limitations of Claim 27 and further teaches the second device comprises a display that will display results data (Col. 8 lines 54-64 of Luo) but does not explicitly disclose storing the results on a space service in a distributed computing environment and having the display service access the results through the space service. However, it is well known in the art that in a distributed computing environment data can be stored and accessed on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that a third device configured to provide a results space service accessible within the distributed computing system; wherein the second device comprises a display; wherein the first service is further configured to: store the results data on the third device through the results space service; send a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the third device; wherein the display service is further configured to: access the results data from the third device through the results space service in accordance with the results advertisement; and display the results data on the display of the second device. One would be motivated to have this as it reduces

the burden on the resources and bandwidth of the service (Col. 4 lines 57-66 of Mukherjee).

62. With respect to Claim 39, Luo in view of Coffman teaches all the limitations of Claim 37 and further teaches the second device comprises a display that will display results data (Col. 8 lines 54-64 of Luo) but does not explicitly disclose storing the results on a space service in a distributed computing environment and having the display service access the results through the space service. However, it is well known in the art that in a distributed computing environment data can be stored and accessed on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that a third device configured to provide a results space service accessible within the distributed computing system; wherein the second device comprises a display; wherein the first service is further configured to: store the results data on the third device through the results space service; send a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the third device; wherein the display service is further configured to: access the results data from the third device through the results space service in accordance with the results advertisement; and display the results data on the display of the second device. One would be motivated to have this as it reduces the burden on the resources and bandwidth of the service (Col. 4 lines 57-66 of Mukherjee).

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63. With respect to Claim 44, Luo in view of Coffman teaches all the limitations of Claim 41 Luo in view of Coffman teaches all the limitations of Claim 37 and further teaches the device comprises a display that will display results data (Col. 8 lines 54-64 of Luo) but does not explicitly disclose storing the results on a space service in a distributed computing environment and having the display service access the results through the space service. However, it is well known in the art that in a distributed computing environment data can be stored and accessed on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the device disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that the device further comprises a display; wherein the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client process; and wherein the first service performing the function for the client generates results data, wherein the first service stores the results data to a results space and wherein the display service is further configured to: access the results data from the results space; and display the results data for the client on the display of the device. One would be motivated to have this as it reduces the burden on the resources and bandwidth of the service (Col. 4 lines 57-66 of Mukherjee).

64. With respect to Claim 47, Luo in view of Coffman teaches all the limitations of Claim 45 and further teaches the device comprises a display that will display results data (Col. 8 lines 54-64 of Luo) but does not explicitly disclose storing the results on a

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space service in a distributed computing environment and having the display service access the results through the space service. However, it is well known in the art that in a distributed computing environment data can be stored and accessed on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the device disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that results data are generated by the first service performing a function for the client, wherein the first service stores the results data to a results space, and wherein the display service is further configured to: access the results data from the results space; and display the results data for the client on the display of the device. One would be motivated to have this as it reduces the burden on the resources and bandwidth of the service (Col. 4 lines 57-66).

65. With respect to Claim 53, Luo in view of Coffman teaches all the limitations of Claim 52 and further teaches the display service will display results data provided by the first service (Col. 8 lines 54-64 of Luo) but does not explicitly disclose storing the results on a space service in a distributed computing environment and having the display service access the results through the space service. However, it is well known in the art that in a distributed computing environment data can be stored and accessed on a results space as shown by Mukherjee (Col. 4 lines 57-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the device disclosed by Luo in view of Coffman and modify it as indicated by Mukherjee such that the program instructions are further computer-executable to implement: the first service

storing the results data on a results space in the distributed computing environment; the first service sending a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the results space; the display service accessing the results data from the results space in accordance with the results advertisement; and the display service displaying the results data on a display of the client. One would be motivated to have this as it reduces the burden on the resources and bandwidth of the service (Col. 4 lines 57-66 of Mukherjee).

### ***Response to Arguments***

66. Applicant's arguments filed 04/12/04 have been fully considered but they are not persuasive.

67. Applicants argues in regards to Claims 1, 18, 31, 41 and 48 – “...*in contrast to the use of service advertisements, Luo teaches that service descriptions are located by searching a directory service using object types and service attributes...contrary to the Examiner's assertion, Luo does not teach a service accessing a display service advertisement. Luo additionally fails to teach the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement.*”

- a. Applicants' statement of contrast is only a conclusive statement and does not explain why the “service descriptions” are in contrast to “service

advertisement. In terms of "service advertisements", the broadest definition given by the specification is on page 29 lines 11-23. As stated in this section, "Services may place a content or service advertisement in a space. The advertisement may describe the content type or the capabilities of the service. Clients may subsequently browse spaces looking for advertisements that match a desired set of capabilities." Luo's "service description" is also placed in a space by the associated service (Col. 5 lines 43-54). The "service description" also describes the content type or the capabilities of the service (Col. 5 lines 50-52 and Col. 6 lines 11-16). The object type can be viewed as a content type and the attributes of the service include capabilities of the service. This is inherently how a user would determine the service they want to use. Therefore the examiner interprets the "service description" to be a "service advertisement". Furthermore, a service is capable of accessing a "service description", such as one for a display service, when needed (Col. 6 lines 45-48). In order to use the service it would have to access the "service description". Therefore Luo teaches a service accessing a display service advertisement. A user or a service will find and download the appropriate "service description" in order to control the associated service (Col. 6 lines 16-20). Thus, depending on the "service description", a messaging channel will be established such that the service can be used. In the example given by Luo, a user will download a "service description" of an application service, such as a Powerpoint application, which will allow the user to establish a messaging channel to the application in order to

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control it (Col. 6 lines 1-28). Luo then states the Powerpoint application can make use of the same procedure in order to use other services such as a storage service or a display service (Col. 6 lines 40-48). The Powerpoint application will also use a "service description" to establish a messaging channel such that it can control the corresponding service (Col. 6 lines 9-28). Therefore, Luo teaches the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement.

68. Applicants argue in regards to Claims 1, 18, 31, 41 and 48, as well as 14 – *"Coffman fails to [teach] a client specifying a display service...Applicants can find no teaching in Coffman regarding the use of service advertisements. Further, Applicants submit that Coffman teaches away from the use of service advertisements by teaching the choice of output device is 'determined based upon a predetermined device preference stored in the conversational system'."*

b. The limitation of concern in this argument is "the client sending a first message to the first service on the first messaging channel, wherein the first message specifies a display service advertisement for enabling access to a display service associated with the client" (From Claim 1). Luo was shown to teach "the client sending a first message to the first service on the first messaging channel". It is also inherent in Luo that the client is specifying or at the very least choosing services based on wanting to display the Powerpoint presentation on a specific display service. However, since it was not explicitly



stated by Luo how the client is making this indication, Coffman is used to teach a client specifying the display. Coffman is not used to teach service advertisements as Luo already teaches the use of service advertisements and that all services, including display services, will register with the directory space (Col. 6 line 23 – Col. 6 line 48 of Luo). Luo further teaches a service is accessed by using the directory space to download a service description to enable control of that service (Col. 6 lines 9-28 of Luo). Coffman teaches the concept of a client specifying in a message that a specific display is to be used (Col. 5 lines 1-10 of Coffman). Therefore, in combination, we have the other part of the limitation; "wherein the first message specifies a display service advertisement for enabling access to a display service associated with the client." As to Coffman teaching away, it is not indicated explicitly in Coffman that use of a service advertisement setup is not acceptable. It is also reasonable to interpret a stored predetermined preference could be used to determine the display service advertisement to specify in the first message. Therefore, Coffman does not teach away.

69. Applicants argue in regards to Claims 2 and 19 – *"Applicants can find no teaching in Luo regarding the use of a data representation language. Therefore, Applicants assert that Luo does not teach a method wherein a "first messaging channel is configured to pass messages in a data representation language between the client and the first service" and wherein a "second messaging channel is configured to pass messages in the data representation language between the first service and the display*

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*service.” Applicants further assert that it would be counter-intuitive to use a data representation language for implementing the code and command based control of network services as described by Luo.”*

c. The claim language specifies the messaging channels are “configured to pass messages in a data representation language.” As such, Luo teaches a middleware and generic control protocol to handle the messaging channels between both the client and the first service and the first service and the display service (Col. 4 lines 48-53). Messaging through a data representation language can be considered a type of middleware. Therefore, the first and second messaging channels are configured to pass messages in a data representation language. It is not counter-intuitive to use data representation language for implementing the services described by Luo since the basics of Luo is the transfer of data such that services can be found, accessed, and controlled. While the example given by Luo shows the transfer of objects and code to meet the goals of the system, Luo does not restrict against other methods of transferring the necessary information.

70. Applicants argue in regards to Claims 4, 21 and 50, as well as 11 and 52 -

*“Applicants submit that Luo in view of Coffman does not teach a “first service sending one or more data messages to the display service on the second messaging channel, wherein the one or more data messages include data for the client; and the display*

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*service displaying the data from the one or more data messages on a display of the client.*"

d. In Luo, the Powerpoint service is sending data messages to the display service on a messaging channel such that the display service will display the powerpoint slides the client wants to see (Col. 6 lines 22-48). Therefore, we have a first service (the Powerpoint service) sending one or more data messages to the display service on the second messaging channel (such that the display service is directed to show the slides – Col. 6 lines 45-48 and Col. 7 lines 45-47), wherein the one or more data messages include data for the client (the messages include data for displaying the requested slides for the client, so the data is for the client). Luo also states as an additional embodiment that the control device can optionally offer its own resources if available and register the advertisements with the directory service (Col. 6 lines 4-7). As such, the control device may provide a display service. Furthermore, the claim limitation "a display of the client" can be interpreted as broadly as an association to the client. Since the client in Luo has the goal of presenting the slide presentation on a display, the display can be considered "a display of the client".

71. Applicants argue in regards to Claim 5 and 22 – *"Applicants can find no reference nor mention in Coffman regarding the generating of message endpoints. Therefore, Applicants assert that Luo in view of Coffman fails to teach a first service generating a first service message endpoint, wherein the first service message endpoint*

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*is configured to send messages to and receive messages from a display service message endpoint of the display service."*

e. As applicants asserted by Applicants on page 26 of the Remarks, the interface for communicating with a service may be "downloaded from a directory service" when it is not present on the system acting as the control device. As such, an interface is generated since it was not originally present. Since messages originate or end at this interface, the examiner interprets it to be a "message endpoint". In Luo, the first service (Powerpoint application) may generate the interface for communicating with the display service by downloading it from the directory service such that it can command the display service to show the slide presentation (Col. 6 lines 9-21). Therefore, Luo teaches a first service generating a first service message endpoint, wherein the first service message endpoint is configured to send messages to and receive messages from a display service message endpoint of the display service.

72. Applicants argue in regards to Claim 14 – *"Applicants can find no teaching in either Luo or Coffman regarding a first message including information for accessing the display service advertisement."*

f. Please see the argument in Paragraph 75.b. as it follows the same rationale.

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73. Applicants argue in regards to Claim 14 – *“Applicants can find no teaching in Luo or Coffman regarding accessing a service advertisement through a space service.”*

g. A “space service” is broadly defined in the specification as a service that manages a repository of service advertisements provided by the services (Page 65 lines 7-15). As shown in Luo (Col. 5 lines 43-54 and Col. 6 lines 4-21), the directory service is a service that manages a repository of service advertisements provided by the services (as argued in Paragraph 74.a. above). Therefore, the examiner considers a directory service can be a space service. Therefore, Luo teaches accessing a service advertisement through a space service.

74. Applicants argue in regards to Claim 15 – *“Applicants can find no teaching nor reference in Luo or Coffman regarding accessing the display service advertisement comprises accessing the display service advertisement from the storage device through the space service.”*

h. In Luo, the directory service manages the service advertisements. Obviously the advertisements have to be stored on some type of storage device. The directory service manages this storage and advertisements are accessed from the storage through the directory service (Col. 6 lines 9-21). Therefore, Luo teaches accessing the display service advertisement comprises accessing the display service advertisement from the storage device through the space service.

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75. Applicants argue in regards to Claim 30, 40 and 54 – “Neither Luo nor Coffman teach a space service...Applicants assert that a dedicated directory service containing service descriptions is not a space service as the Examiner contends...Luo in view of Coffman fails to teach the use of a display service advertisement...Luo in view of Coffman must also fail to teach a service advertisement stored on a fourth device configured to provide a space service...Applicants can find no teaching in either Luo or Coffman regarding a message including information for accessing the display service advertisement.”

- i. The applicants' assertion that the dedicated directory service is not a space service is only a conclusive statement. The applicants provide no evidence or explicit interpretation as to why the directory service cannot be considered a space service. The examiner has provided his interpretation of why the directory service can be considered a space service in Paragraph 80.g. above. The other arguments in regards to Claims 30, 40 and 54 have also been discussed in the above arguments.

76. Applicants argue in regards to Claim 45 – “Luo fails to teach wherein the display service is configured to provide a display service advertisement...Applicants submit that through the use of a directory service, Luo teaches away from a display service that is configured to provide a display service advertisement to a client in the distributed computing environment. As also shown above in the remarks regarding Claim 1, Luo additionally fails to teach a service operable to establish a messaging channel between

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*the first service and the display service in accordance with the display service advertisement.*

j. As argued above in regards to Claim 1, Luo teaches the use of service advertisements. Luo further teaches that a service, such as a display service, will provide its service advertisement to the directory service such that a control device on the network can access and use the display service (Col. 5 line 43 – Col. 6 line 28). Therefore, Luo teaches the display service is configured to provide a display service advertisement. As argued previously, a directory service manages the service advertisements of the services on the network. The examiner does not see how the use of the directory service would teach away from a display service that is configured to provide a display service advertisement to a client in the distributed computing environment. The remarks regarding Claim 1 are discussed above in Paragraph 75.b.

77. Applicants argue in regards to Claim 16 – “*Luo in view of Coffman and in further view of Hodes does not teach the display service advertisement is an eXtensible Markup Language (XML) document.*”

k. The specification states an “advertisement may provide a mechanism for addressing and accessing services and/or content within the distributed computing environment” (Page 66 lines 12-15). Hodes defines the ISL file being used by the client device “to learn the syntax of RPC calls and call parameters that can be used to access the service. It additionally allows the device to adapt

the representation to a format appropriate for the device's characteristics..."

(Page 418 – 3.7.1. Motivating interface specifications). Therefore, the ISL file can be considered as having the functionality of a service advertisement.

Furthermore, the ISL file can be implemented in XML (Page 418, section 3.7.1. "Motivating Interface Specifications", and see Footnote 2 on the same page).

Therefore it is reasonable to assume that a service advertisement can be implemented in XML. Therefore, Luo in view of Coffman and in further view of Hodes does teach the display service advertisement is an eXtensible Markup Language (XML) document.

78. Applicants argue in regards to Claim 12 – *"Applicants can find no teaching in Mukherjee regarding storing data in a results space and assert that using file storage devices in a distributed file system does not constitute storing data on a results space."*

I. Mukherjee teaches the concept of off-loading data from a centralized location to a different storage location to relieve processing burden of the centralized location (Col. 4 lines 57-66). Luo teaches that a storage location can be a service that can be used by other services (such as the powerpoint service) and the examiner interprets this to be a results space when used as such (Col. 6 lines 45-48). Luo also teaches a service can perform a function which provides results data, such as the data that the Powerpoint service provides to the display service such that the slide is presented (Col. 7 lines 55-59). The examiner interprets the addition of Mukherjee to show that the Powerpoint service can



instead off-load this results data on to a storage service such that display service can access this storage service in order to display the data instead of directly getting the data from the Powerpoint service. Therefore, Luo in view of Coffman and in further view of Mukherjee teaches the first service storing the results data on a results space in the distributed computing environment.

79. Applicants argue in regards to Claim 13, 29, 39, 44, 47 and 53 – *“Applicants can find no reference in Luo, Coffman or Mukherjee regarding a results advertisement...Applicants can find no reference in Mukherjee regarding a results space.”*

m. Luo teaches as part of the control structure the ability to specify a location of which data can be loaded from (Col. 8 lines 10-23). The examiner considers this to be a results advertisement as the Powerpoint service would have to indicate to the display service the location of the filename to be displayed (Col. 9 lines 1-10). As discussed above, Luo teaches a storage service and the examiner interprets the storage service can be a results space when used as such.

***Conclusion***

80. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 703-305-4868. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Lazaro  
June 16, 2004



**HOSAIN ALAM**  
**SUPERVISORY PATENT EXAMINER**